

RESEARCH, DEVELOPMENT & TECHNOLOGY TRANSFER QUARTERLY PROGRESS REPORT

Wisconsin Department of Transportation
DT1241 02/2011

INSTRUCTIONS:

Research project investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT research program category: <input type="checkbox"/> Policy research <input type="checkbox"/> Other		<input checked="" type="checkbox"/> Wisconsin Highway Research Program <input type="checkbox"/> Pooled fund TPF#	Report period year: 2011 <input type="checkbox"/> Quarter 1 (Jan 1 – Mar 31) <input checked="" type="checkbox"/> Quarter 2 (Apr 1 – Jun 30) <input type="checkbox"/> Quarter 3 (Jul 1 – Sep 30) <input type="checkbox"/> Quarter 4 (Oct 1 – Dec 31)
Project title: Effective Depth of Soil Compaction in Relation to Applied Compactive Energy – Fine-Grained Soil Supplement Project			
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WisDOT project ID: 0092-08-11	Other project ID:	Project start date: 10/10/2007	
Original end date:	Current end date:	Number of extensions: 3	

Project schedule status:

☐ On schedule ☐ On revised schedule ☐ Ahead of schedule ☒ Behind schedule

Project budget status:

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
\$103,914.00				

Project description:

The Wisconsin Department of Transportation has requested the evaluation of appropriate lift thickness for embankment construction under common compactors equipment used in Wisconsin. The lift thickness has direct engineering and economic implications in the design, construction and performance of geotechnical systems such as embankment, foundations and roads construction. The Geological Engineering research group at University of Wisconsin has proposed a series of experimental tests to monitor the compaction effort applied and how the soil properties varied with it. In addition, field monitoring of the compaction process will be performed during the next summer season. Data collected taken from the experimental tests and the field monitoring, recommendation of appropriated lift thickness will be given considering type of soil and compactor equipment.

The proposed work plan complements the study performed on the evaluation of effective depth of compaction on coarse-grained soils. This study will collect and evaluate data from actual embankment construction operations to evaluate the effective depth of compaction on fine-grained soils.

The proposed work plan will be divided in three phases:

- I. Evaluation of the response and effect of compaction operations in fine-grained soils
- II. Establish correlations between experimental data and theoretical/numerical predictive models
- III. Draft recommendations for optimum lift thickness in Wisconsin embankment construction for coarse and fine-grained soils

Progress this quarter (includes meetings, work plan status, contract status, significant progress, etc.):

We are coordinating with Adam Janz of RA Smith (262-379-0163) access to the Project 1030-24-76, CTH 11 Frontage Roads, Preconstruction site for testing. We have been informed that the project will start after Labor Day. Our team is ready to go in a week notice.

Our team will need to complete with OCIP safety orientation program. This two-hour orientation is given every Wednesday at 7 AM at 1001 W St. Paul Avenue in Milwaukee, WI (Administrator Shana Taylor – 414-225-0023). Our research team plans to complete with this orientation on August so we are ready to test on September.

Anticipated work next quarter:

We expect to complete this quarter field data collection on fine-grained soils at the Project 1030-24-76.

Circumstances affecting project or budget:

We are worked with WisDOT officials and Adam Janz of RA Smith to make sure we can complete the data collection. The project is current suspended till field data collection is completed.

Attach / insert Gantt chart and other project documentation

Phase I - Evaluation of the response and effect of compaction operations on actual embankment construction operations

Phase II - Theoretical/numerical and experimental evaluation of compaction efforts

Phase III - Establish correlations between experimental data and theoretical/numerical predictive models

Phase IV - Draft recommendations for optimum lift thickness

Phase V – Final Report

Table 1: Project time schedule

Phase Number	1.25 Years (15 months)				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5
Phase I	X	X		X (if required)	
Phase II		X	X	X	
Phase III		X	X		
Phase IV					X

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Staff receiving QPR:	Date received:
Staff approving QPR:	Date approved: